preted as academic snobbery divisive to our profession, but also could open the door for malpractice attorneys to use this inaccurate conclusion against "community surgeons" who are, in fact, well trained and suited to perform these minimally invasive procedures.

I believe their conclusion should have been that surgeons and institutions lacking an adequate volume of experience, laboratory facilities for training, or a system of appropriate follow-up and clinical analysis should not perform these types of procedures.

My father always told me that I should choose my words carefully so that they could not come back and bite me. The Baylor group could learn from this advice, since it is my understanding that the Methodist Hospital in Houston is, indeed, a "community hospital."

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[Response declined]

12/8/89288

Air embolism with intraaortic balloon counterpulsation during cardiopulmonary bypass

To the Editor:

The recommendation in the recent letter by Mulay and associates[1] to maintain intraaortic balloon (IAB) counterpulsation during the entire period of cardiopulmonary bypass (CPB) should be qualified with a word of caution: cases of significant air embolism have been reported if the aorta is opened (as it is for cannulation) at the onset of IAB deflation.[2, 3] In their letter, the authors noted that they temporarily stop the IAB pump when clamping or unclamping the aorta; on the basis of the previously reported cases, we believe the IAB should also be turned off with any aortotomy or when the arterial perfusion or cardioplegia cannulas or vents are being inserted or removed. It is particularly important to turn the IAB off if a period of circulatory arrest is used, as noted by Mills and Morris.[4] The generally accepted technique of momentarily lowering CPB blood flow when applying the aortic crossclamp or removing the cardioplegia cannula or ascending aortic vent will lower blood pressure in the aorta and may favor air entry with IAB deflation. Although this mechanism of arterial air embolism may be rare, the potential for sucking a relatively large volume (up to 40 cc) of room air into the ascending aorta during CPB is real and can be minimized by stopping the IAB when surgical maneuvers require that the aorta be opened. This word of caution should not detract from the message in the excellent letter of Mulay and associates[1] outlining the benefits of pulsatility during CPB.

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Reply to the Editor:

I thank Kurusz, Lick, and Conti for highlighting the potential dangers of air embolism with the use of the intraaortic balloon (IAB). I agree with their comments regarding the suction generated by deflation of the IAB. Fortunately, my colleagues and I have not had such incidents in the past 10 years and, like the authors, would recommend that the IAB be turned off temporarily while the aortic cannulas used for cardioplegia and bypass are being inserted or removed. Temporary cessation of ballooning lowers blood pressure while the aortic clamps are being applied. We have not used the IAB in any of the patients who had circulatory arrest. We would, however, agree with the suggestion that the IAB should be left deflated during the total circulatory arrest period. Full recirculation and deairing of the aorta should be effected before the IAB is used while the patient is being rewarmed. This is an important message for those using continued IAB counterpulsation during cardiopulmonary bypass.

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